THE EARLY RECOGNITION OF CANCER OF THE CERVIX UTERI.

BY

HENRY C. COE, M.D., M.R.C.S.,

PATHOLOGIST TO THE WOMAN'S HOSPITAL; ASSISTANT SURGEON TO THE NEW YORK CANCER HOSPITAL.

FROM

THE MEDICAL NEWS,

February 16, 1889.

[Reprinted from THE MEDICAL NEWS, February 16, 1889.]

THE EARLY RECOGNITION OF CANCER OF THE CERVIX UTERI.[1]

BY HENRY C. COE, M.D., M.R.C.S.,
PATHOLOGIST TO THE WOMAN'S HOSPITAL; ASSISTANT SURGEON TO THE NEW YORK CANCER HOSPITAL.

SOME apology may seem necessary for introducing a subject which is touched upon in most of the text-books on diseases of women, and with which we are supposed to be familiar. Having, through my connection with the New York Cancer Hospital, the opportunity of observing a considerable number of cases of incurable malignant disease of the cervix, I am constantly impressed with the frequency with which the mournful statement recurs in the histories of these unfortunates—that their attending physician never told them that there was anything serious the matter with them until their condition had become hopeless. The proportion of inoperable cases sent to hospital is so large, that it seems to me it is high time that the attention of the profession in this country should be called to the fact that we need not expect that our statistics of operations for the cure of cancer of the uterus will ever improve until

[1] Read before the New York State Medical Society, February 5, 1889.

the general practitioner learns to recognize the existence of the disease before it has reached a stage at which complete extirpation of the organ, if justifiable at all, offers little prospect of permanent relief. A recent German writer (Thiem) following out this line of thought, calls attention to the large number of operable cases treated at the Berlin clinic, as compared with those which come under the observation of surgeons in the smaller Continental cities, and attributes the difference to the fact that in the former the disease is recognized more promptly.

The marked impetus which has been given to the cultivation of skill in gynecological diagnosis has, unfortunately, not extended to the recognition of incipient cancer of the cervix. Cases of neglected ovarian cyst, even in remote country districts, are now so rare, that West's classical description of the final condition of such patients is seldom verified. Thanks to the increased intelligence of the profession, even the more obscure pelvic affections (ovarian and tubal) are often detected and submitted to surgical treatment, thereby saving many women from years of unnecessary suffering. It would seem strange that when the importance of laceration of the cervix is so widely acknowledged and the lesion is readily diagnosticated, its most serious consequence should be overlooked. Yet there is some excuse for this. So indefinite are the symptoms of commencing epithelioma, and so often are they masked by those referable to coexisting conditions, that specialist and general practitioner are alike deceived. Nothing is more natural or laudable than the desire on the part of the family physician to

allay the fears of a patient who suspects the existence of cancer; but, unfortunately, this often leads him to defer the examination until it is too late. The patient herself is then the first to blame him for not insisting upon a measure to which she opposed so many obstacles. Specialists often fail to take into account the difficulties which are encountered by the attendant under these circumstances.

I propose to discuss this subject from a strictly practical standpoint, and shall touch lightly upon facts which are of more interest to the pathologist than to the clinical observer. It would be profitless to dwell upon the relative frequency of the different varieties of cancer of the cervix. I am in accord with Lusk (*American System of Gynecology*, vol. ii. page 602), who says:

> "The old familiar division of uterine cancer into scirrhus, medullary cancer, colloid cancer, and epithelioma at the present time has ceased to be tenable. It was based on tactile impressions, physical appearances, and peculiarities of growth. It represented not distinct varieties, but accidental conditions, or successive stages of development. It served to introduce into the subject an element of confusion detrimental to progress, as rarely two observers were found in agreement as to the classification of the disease in the same patient."

There are certain popular fallacies with regard to malignant disease of the uterus, which even yet exercise great influence over the medical mind. I allude more particularly to the importance assigned to the age and so-called "cachexia" of the patient, to hemorrhage, and to the presence of foul discharges from the vagina. Any one who has observed a number of cases of advanced carcinoma of the cervix must have been struck with the large proportion in which

some, or even all, of these supposed pathognomonic symptoms are conspicuous by their absence. In over twenty per cent. of the recorded cases the patients are under forty years of age. Within the last year I have seen two women of twenty-four die from a recurrence of the disease, one after amputation of the cervix and the other after vaginal hysterectomy. Several women have come to my office with advanced epithelioma of two years' standing, who exhibited but slight evidence of ill-health; one of them has actually gained in weight since I amputated her cervix fourteen months ago.

Many, in fact the majority, of the patients at the Cancer Hospital are singularly free from pain. Pain, when it occurs, is a later symptom, referable to peritonitis rather than to the disease itself. Flooding, sufficient to jeopardize the life of the patient, is exceptional, in my experience. I am inclined to regard it as quite as rare as fatal hæmoptysis. The profuse, foul, watery discharge with which we are so familiar, is by no means a constant attendant of advanced malignant disease, even when extensive ulceration is present; careful observation of patients in hospital and private practice has frequently demonstrated to my satisfaction the fact that it may be slight, even in cases in which a vesico-vaginal fistula has formed. Of course, some allowance must be made for the effect of frequent vaginal injections (especially when the admirable deodorizer creolin is employed), but the cases to which I refer were those of patients who had recently come under observation and had not used any means to secure thorough cleanliness.

These prefatory statements with regard to the

negative evidences of advanced malignant disease of the cervix, which are all based on careful records, will serve to show how slight may be the symptoms which attend the same disease in its incipient stage.

"The first symptom in five-sixths of all cases of cervical cancer," says Winckel, "is hemorrhage." Let us not understand by this profuse loss of blood, such as sometimes occurs during the stage of ulceration. The hemorrhage, which is only an expression of the local hyperæmia, may take the form of menorrhagia or metrorrhagia (more commonly the former) and presents different features according as it occurs in patients before, during, or after the climacteric. It has seemed to me in several instances, where the women were under forty, that the menorrhagia, from which alone they sought relief, was directly due to hyperplastic endometritis, and not to the condition of the cervix at all. In two recent cases I did not even suspect commencing epithelioma, but proceeded to curette the uterus and to excise the cervix, as in any case of bilateral laceration with extensive erosion and induration. A large quantity of fungosities was removed, and the hemorrhage was entirely relieved, the subsequent periods being normal. On microscopical examination of both cervices, there was no doubt as to the presence of malignant disease. Now, in these cases the hemorrhage was clearly due to the diseased condition of the endometrium, which doubtless preceded the development of epithelioma, being only a link in the pathological chain of which the first was the cervical laceration. I mention this point in order to caution the unwary against the error of inferring that because they have removed the immediate cause

of the menorrhagia, nothing more remains to be investigated.

In these young women, I would lay particular stress upon one symptom, which is apparently so unimportant that it often passes unnoticed; I allude to slight hemorrhage (often a mere "show") after coitus. Most of the books mention this, but few emphasize its importance. If you take the trouble to question patients about this sign, you will be surprised to find how often it can be identified as the initial objective symptom of malignant disease. I need not enter into an explanation of its cause. Women of the better class will of course rarely mention it unless questioned, but I hold that it is the physician's duty to inform himself on this point whenever he has the slightest suspicion of a sinister condition. Less often the same bloody discharge is noticed on straining during defecation. This single symptom, hemorrhage after coitus, led me to examine and to detect cancer of the cervix in a robust German woman, who had never had a single pain referable to the pelvic organs.

Irregularity in the recurrence and variation in the normal amount of the menstrual flow, are regarded by both the laity and profession as indicative of the approaching menopause. Börner, who has written the most recent monograph on this subject, lays great stress upon the fact that these "atypical" hemorrhages are frequently pathological in their character, the increased flow being really due to some morbid condition of the uterus. The patient is lulled into a sense of security, not only by her own feeling that her symptoms are due to the change of life, but by the assurance of her physician, who

too easily concurs with her opinion and thinks that an examination is unnecessary. How often are gynecologists called to see women with fibroid tumors, who have been allowed to bleed for months until they have become almost exsanguinated, while they have been treated "expectantly," with the idea that hemorrhage was physiological and would cease spontaneously! Cancer of the cervix, of course, does not give rise to such profuse menorrhagia, but it causes an increase in the menstrual flow too marked to be referred to the climacteric alone. Even a bare suspicion that the condition is hyperphysiological should lead us to investigate thoroughly, since we know that malignant disease of the portio develops in the majority of cases in the fifth decade. The advice given by Hart and Barbour is sound, viz.: "In all cases in which a patient over forty years of age seeks advice with symptoms referable to the pelvis, a careful examination should be made."

There are certain peculiarities with regard to the establishment of the menopause which should especially awaken our suspicions. Premature climacteric hemorrhages (between thirty-five and forty) are usually pathological; of still more doubtful import is menorrhagia prolonged after the age of fifty.

Börner goes so far as to state that in such women "the most perfect regularity in the monthly flow does not justify us in deciding at once that the conditions are normal, and that there is simply a delayed menopause."

Post-climacteric hemorrhages, it is hardly necessary to add, are a sinister omen. If they occur soon after the establishment of the menopause, both patient and physician may fall into the error of regard-

ing them as simply a recurrence of the former menorrhagia; but, these hemorrhages are usually slight and insignificant, appearing at irregular intervals. There may be simply a pinkish discharge, which bears no resemblance to the atypical bleeding. Women are more likely to notice this symptom now than they were in earlier life, because they are always on the lookout for cancer after the "change." But, in spite of this, experience shows that even in such cases the existence of malignant disease is not recognized as promptly as it should be.

Pain in commencing epithelioma, as I have before stated, is seldom of such a nature as to afford a clew to the condition present. It seems to me an error to refer to any particular variety of pain as pathognomonic of malignant disease of the uterus. In the earlier stage the patient may have only an occasional vague, shooting pain in the back or in the lower part of the abdomen; or it may be of a dull, aching character. It should be remembered that she has already an extensive laceration of the cervix of long standing, and probably the remains of former peri-uterine inflammation, the symptoms of which would mask any fresh ones produced by the incipient cancer. I have noted that pain in the left sciatic nerve was the first symptom of beginning trouble in a patient in whom there was absolutely no indication of pelvic disease. The neuralgia was peculiarly intractable and had been treated for some time before she came under my care. It ceased immediately after amputation of the cervix and has never returned. Since my attention was called to this symptom I have observed it in other cases.

The characteristic watery discharge is not observed

until ulceration occurs. But profuse leucorrhœa (without odor) is a common accompaniment of cervical erosions. When it is frequently streaked or tinged with blood, it becomes significant.

These symptoms, slight as they are, are all which have been noted in connection with incipient malignant disease of the cervix. They are so indefinite, that unless we are in the habit of regarding every pelvic trouble as serious until it is proved to be otherwise, we shall frequently either overlook them entirely, or regard them as not sufficiently important to justify an examination. Hebra used to say: "Any one can have syphilis." We might add: "Any woman may have cancer."

Supposing we are led to make a vaginal examination, are the feel and appearance of the cervix sufficiently characteristic to clear up all doubt regarding the diagnosis? I cannot answer unhesitatingly in the affirmative. The examining finger encounters a large indurated cervix, presenting a unilateral (or, more commonly, a bilateral) laceration, with eversion of the lips. The soft, velvety sensation imparted by the erosion may be masked by the general induration, which, it is important to note, is not confined to the angle of the tear. The everted mucous surface bleeds more readily than a simple erosion. Instead of the ovula Nabothi usually felt, small, hard nodules are often present. Spiegelberg's test—immobility of the mucous membrane over the subjacent indurated tissue—is of no practical value. I would rely principally on the general sclerosis of the hypertrophied cervix, associated with bleeding of the everted mucous membrane. The uterus is usually enlarged, but this enlargement is of

long standing, resulting from the original laceration; it is, as a rule, movable at this stage. The cervix is often quite insensitive, although tenderness is more likely to be present than after ulceration has occurred. Inspection of the diseased parts through the speculum adds but little to the information obtained by the touch. The examiner sees a hypertrophied cervix with an angry-looking erosion. According to Stratz (*Zeitschrift für Geb. u. Gyn.*, Bd. xiii. Heft 1), a sharp line of separation between the diseased and healthy tissue will be observed, the former occupying a somewhat higher level. Scattered through the latter will be seen glistening, yellowish-white nodules, which on section present a granular appearance. It is safe to say that these are not constantly present; they are rather a manifestation of that form of carcinoma which begins as nodules beneath the mucous membrane. Schroeder believes that every papillary growth on the cervix having a broad base, should be regarded as cancerous; on the other hand, if a papillary ulcer is surrounded by a zone of follicles it is more likely to be benignant.

The text-books instruct us in case of doubt to excise a piece from the cervix and to submit it to microscopical examination. This is excellent advice, which certainly should be followed in every instance where the decision of the surgeon with regard to the performance of a radical operation is based entirely upon the pathologist's report. I would have had less cause for regret if I had not omitted to take this precaution on one occasion. But the pathologist sometimes rightly declines to shoulder all the responsibility. The microscopical appearances

of the suspected tsisue are such that he does not feel justified in giving a positive opinion with regard to its malignancy. With Virchow's experience fresh in our minds, we cannot afford to blame any microscopist for sometimes hesitating. I have dilated on this subject in a recent paper on "The Microscopical *versus* the Clinical Evidences of Malignant Disease" (*N. Y. Medical Journal*, June 18, 1887), in which I called attention to the fact that it was sometimes necessary to examine many sections of suspected tissue before one was found which justified the pathologist in making the diagnosis of cancer. and that the small fragment submitted for examination might not be taken from the most characteristic portion of the cervix. In short, the evidence afforded by the microscopical examination may be entirely negative.

In excising a fragment for examination, be careful to take out a generous wedge, including both the mucous membrane and the subjacent muscular tissue. The pain is insignificant, so that I never use an anæsthetic. Select the most suspicious spot, seize the underlying tissue with a tenaculum, and remove the wedge with two snips of the scissors. I shall not enter upon a description of the microscopical appearances in simple erosion and in epithelioma. but shall merely call attention to the main point which should be considered in deciding upon the character of the suspected tissue. It is not enough, as Friedländer clearly shows, to apply Waldeyer's definition of cancer—"an atypical proliferation of epithelium"—since the same atypical cell-processes may be seen in sections of a simple erosion. Evidence of active cell-proliferation, granulation tissue,

glandular hyperplasia—all these may accompany a purely benignant condition. The malignancy of the process is shown by its disposition to invade the deep-lying parts, while an innocent growth remains limited to the tissue from which it originated. Friedländer expresses this so clearly that I quote the following from his work on "Microscopical Technology": "If we discover in the uterus that the process is not confined to the mucous membrane, but that it also invades the muscular tissue, and that the muscle is partly replaced by granulation tissue traversed by outgrowths of atypical epithelium, we have to do with a clearly malignant element, and then only do we make the positive diagnosis of cancer." It will be evident from this that you cannot blame the pathologist if he refuses to give you a positive opinion unless you send him something more than a mere snipping from the hypertrophied mucous membrane.

There should be little room for doubt regarding the proper treatment of these cases, whether cancer has actually developed or not. In every case of laceration of the cervix, accompanied by extensive erosion and induration of the subjacent tissues, the proper course to pursue is to excise all the diseased tissue, even if this involves ablation of the entire cervix. This is only following Emmet's teaching in regard to the thorough excision of the "cicatricial plug." "I have always," he states, "advocated and practised removal of the cervix where the tissues have become so degenerated that the fear of epithelioma might be entertained. The occasion is rare, but recently I have resorted to the operation in several instances as a precaution, from

witnessing epithelioma spring up in a case in which I had trusted too much to the reparative power." It seems to me that "excision" is a more correct designation for the operation than "amputation;" the latter is more properly applied to removal of the cervix in cases of actual elongation or hypertrophy. Excision, as I understand it, is by no means so rarely indicated as one would infer from the above quotation, and it would be well if it were practised more frequently instead of simple repair of the existing laceration. The same rule applies here as in any operation for the removal of neoplasms in general surgery—amputation of the breast, for example—to excise freely all suspicious indurated tissue bordering on the original wound.

It is unnecessary to dwell upon the technique of excision, which is somewhat similar to that of Schroeder's operation for the radical cure of cervical endometritis, the vaginal mucous membrane being preserved in both instances, although in the former much more of the cervical tissue is removed. The introduction of a plug (of iodoform-gauze or glass), in order to keep the canal patent, is an important point, nor should it be forgotten that the sutures must be inserted more deeply than usual if the surgeon would insure union of the underlying parts. Silver wire can alone be depended upon in these cases. The inexperienced operator must be neither too timid nor too bold, since he will, on the one hand, not remove all the diseased tissue, or, on the other, he will enter the subperitoneal space—an accident which may lead to unpleasant consequences if the operation is not thoroughly aseptic. The latter will be avoided by always cutting toward

the centre. If this caution is followed, the apex of the cone may be as high as the os internum, the mucous lining of the entire cervical canal being removed with the cone. Remembering the insidious manner in which cancer originates in, and creeps along, the cervical endometrium, it will be apparent that an attempt to preserve a strip of undenuded tissue in the canal will probably defeat the object of the operation, which is to remove all the diseased portion of the cervix, and thus to provide against future recurrence.

The fear of hemorrhage during operations on the cervix is incomprehensible to those who have had much experience in minor gynecological surgery. The "circular artery" is a veritable bugbear. Out of five or six hundred operations which I have observed, I cannot recall one in which the bleeding was not promptly and effectually controlled by a single deep suture. It may be asked: "Can excision be properly performed by the general practitioner?" Why not, providing that he is competent to repair a laceration of the cervix? It is important to note, however, that one must be able to deal with every complication that arises, the same as the would-be laparotomist. It is certainly unfortunate for a tyro to subject a woman to a laparotomy which is not completed simply through his timidity or lack of experience; on the same principle, the general practitioner, whose experience is necessarily limited, may shrink from excising the entire cervix when necessary, confining himself to a partial operation which is worse than useless. It is better to allow to heal by granulation rather than to obtain perfect

union at the expense of leaving behind a focus of malignant disease.

A word with reference to the ultimate results of excision. I would not be understood as urging it as a substitute for a more radical operation, when the latter is clearly indicated, but I do regard it as the only justifiable measure when the cervix is only "suspicious." A sufficient number of cases of vaginal hysterectomy (some of which terminated fatally) for simple erosion of the cervix are on record to render us somewhat cautious about resorting to this radical treatment until the disease has developed beyond the shadow of a doubt.

Excision is a simple, safe, and effective operation, unattended by subsequent complications, which often nips the disease in the bud, so that it never returns. Even if it does, the recurrence is promptly observed, and high amputation or vaginal extirpation may then be performed just as well as at first. Another consideration, by no means unimportant, is the fact that by performing the minor operation we spare the patient the thought that her condition must be wellnigh hopeless in order to call for removal of the entire uterus. The dreaded word "cancer" need not be mentioned, neither is it necessary to impress her with our own gloomy forebodings. It is enough to explain to her that her condition is such that the prompt performance of a minor operation will save her serious trouble in the future. By the exercise of a little tact, she may be spared the knowledge of how narrowly she escaped that danger, as well as the agonizing doubt of patients who live in constant dread of a recurrence of the disease.

Summary.—The majority of the cases of cancer of the cervix uteri do not come under the observation of the surgeon before the disease has progressed so far that it is impossible to perform a *successful* radical operation. The attending physician is too often responsible for this delay, although he is not entirely inexcusable for misinterpreting the initial symptoms.

The symptoms of incipient malignant disease of the cervix are seldom characteristic, but they are such as to awaken suspicion and to justify an examination. Slight, irregular hemorrhages, especially after coitus, are always significant, above all in women who have passed the menopause. Pain is seldom characteristic. There is no offensive discharge in the early stage.

Hypertrophy and general induration of the cervix, accompanying an erosion which bleeds easily to the touch, should lead the physician to confirm the diagnosis by excising a fragment of the suspected tissue and submitting it to microscopical examination.

A positive opinion regarding the presence of malignant disease is justified only by the finding of processes of atypical epithelium which *invade the subjacent muscular tissue.*

Excision of the cervix should be performed in every case of extensive erosion with general induration, whether cancer has actually developed or not. This is often sufficient to insure a cure, and thus to render a radical operation unnecessary. If the disease recurs, the uterus may be extirpated subsequently.

THE MEDICAL NEWS.

A National Weekly Medical Periodical, containing 28-32 Double-Columed Quarto Pages of Reading Matter in Each Issue. $5.00 per annum, post-paid.

UNITING in itself the best characteristics of the magazine and the newspaper, THE MEDICAL NEWS renders a service of exceptional value to the profession. It presents original articles, hospital notes and clinical lectures by the ablest writers and teachers of the day, discusses living topics editorially in a clear and scholarly manner, and employs all the recent and approved methods of medical journalism—the telegraph, reporters and a corps of special correspondents covering all the medical centres of the globe. It thus imparts, without loss of time, all advances of knowledge attained in the medical sciences. In short, it is the effort of all concerned in the publication of THE NEWS that it shall be indispensable to every physician in active practice.

The American Journal of the Medical Sciences.

Edited by I. MINIS HAYS, A.M., M.D

Published monthly, beginning with 1888. Each number contains 112 octavo pages, amply illustrated. Price reduced to $4.00 per annum, post-paid.

In his contribution to *A Century of American Medicine*, published in 1876, Dr. John S. Billings, U. S. A., Librarian of the National Medical Library, Washington, thus graphically outlines the character and services of THE AMERICAN JOURNAL—"The ninety-seven volumes of this Journal need no eulogy. They contain many original papers of the highest value; nearly all the real criticisms and reviews which we possess; and such carefully prepared summaries of the progress of medical science, and abstracts and notices of foreign works, that from this file alone, were all other productions of the press for the last fifty years destroyed, it would be possible to reproduce the great majority of the real contributions of the world to medical science during that period."

COMMUTATION RATE.—Postage paid.

THE MEDICAL NEWS, published every Saturday,
THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, monthly, ... } in advance, $7.50.

LEA BROTHERS & CO., 706 & 708 Sansom St., Phila.